## **Description of Additional Supplementary Files**

File Name: Supplementary Movie 1

Description: The stability test of Ni(Fe)OOH-FeS<sub>x</sub> electrode with area of  $1\times1$  cm<sup>2</sup> at constant current density of 10 mA cm<sup>-2</sup>.

File Name: Supplementary Movie 2

Description: The stability test of Ni(Fe)OOH-FeS<sub>x</sub> electrode with area of  $1\times1$  cm<sup>2</sup> at constant current density of 100 mA cm<sup>-2</sup>.

File Name: Supplementary Movie 3

Description: The stability test of Ni(Fe)OOH-FeS<sub>x</sub> electrode with area of  $7\times7$  cm<sup>2</sup> at constant current density of 10 mA cm<sup>-2</sup>.

File Name: Supplementary Movie 4

Description: The stability test of Ni(Fe)OOH-FeS<sub>x</sub> electrode with area of  $7\times7$  cm<sup>2</sup> at constant current density of 100 mA cm<sup>-2</sup>.